

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of presenting a changing combustor condition comprising:

a. sensing the combustor condition using a sensor array in a gas path of the combustor;

b. generating data from the sensor array representative of the combustor condition at a plurality of positions in the gas path;

c. transmitting the generated data to a computer system proximate to a control interface interface for the combustor;

d. generating a graphical representation of the showing ~~combustor~~ combustion product conditions in the gas path, ~~and~~;

e. displaying the graphical representation on the computer system;

f. adjusting combustion controls at the control interface to change the combustor conditions, and

g. repeating steps (a) to (d) to acquire a sequence of graphical representations of the combustion product conditions over a period of time.

2. (Original) A method as in claim 1 wherein the graphical representation is a contour plot.

3. (Original) A method as in claim 1 wherein the graphical representation is a contour plot which is updated periodically to provide a real-time representation to the display.

4. (Original) A method as in claim 1 wherein the graphical representation is a contour plot which is updated at least every ten seconds.

5. (Original) A method as in claim 1 wherein the graphical representation is a contour plot which is updated at least every second.

6. (Original) A method as in claim 1 wherein the graphical representation is a contour plot which is updated periodically, and said method further comprises a calculation of an average sensor measurement that is displayed in conjunction with the graphical representation.

7. (Original) A method as in claim 1 wherein the data is transmitted periodically in near real-time.

8. (Original) A method as in claim 1 wherein the data is transmitted through a network connection.

9. (Original) A method as in claim 1 wherein the combustor condition is selected from a group consisting of CO, O₂ and temperature.

10. (Currently Amended) A method of presenting a changing combustor condition comprising:

a. sensing the combustor condition in near real time using a sensor array in a gas path of the combustor;

b. generating data from the sensor array representative of the combustor condition at a plurality of positions in the gas path;

c. transmitting the generated data in near real-time to a computer system, where the computer system is at a location proximate to a control interface for the boiler;

d. generating a graphical representation of the near real time showing combustor conditions in the gas path, ~~and;~~

e. displaying the graphical representation in near real time on the computer system;

f. repeating steps (a) to (d) periodically to acquire generated data from the sensor array at a plurality of different times, and

g. displaying a sequence of graphical representations of combustor conditions at each of the different times.

11. (Original) A method as in claim 10 wherein the graphical representation is a contour plot.

12. (Original) A method as in claim 10 wherein the graphical representation is a contour plot which is updated periodically.

13. (Original) A method as in claim 10 wherein the graphical representation is a contour plot which is updated at least every ten seconds.

14. (Original) A method as in claim 10 wherein the graphical representation is a contour plot which is updated at least every second.

15. (Original) A method as in claim 10 wherein the graphical representation is a contour plot which is updated periodically, and said method further comprises a calculation of an average sensor measurement that is displayed in conjunction with the graphical representation.

16. (Original) A method as in claim 10 wherein the data is transmitted through a network connection.

17. (Original) A method as in claim 10 wherein the combustor condition is selected from a group consisting of CO, O₂ and temperature.

18. (Currently Amended) A system for collecting and presenting a changing combustor condition in a boiler comprising:

a sensor grid located in a combustion product gas path in the boiler ~~the combustion~~, said grid sensing the combustor condition in real time using a sensor array in the ~~a~~ gas path ~~of the combustor~~ and generating data representative of the combustor condition at a plurality of positions in the gas path and at a plurality of different times;

a network for communicating electronic data;

a computer system coupled to the network and further comprising a controller and a display, wherein said controller receives the generated data and generates a graphical representations of the real time showing combustor conditions in the gas path and of a sequence of prior combustor conditions in the gas path, and said graphical representation is presented on said display.

19. (Original) A system as in claim 18 wherein said computer system is proximate to controls for said combustion system.

20. (Original) A system as in claim 18 wherein said graphical representation is a contour plot.

21. (Withdrawn) A method to adjust a boiler having a flue gas duct comprising:

a. sensing flue gas emissions in the gas duct with a plurality of emission sensors arranged in an array;

- b. generating a multidimensional graphical depiction of the flue gas emissions by plotting sensor data captured from the emission sensor;
- c. adjusting the boiler to modify the distribution of flue gases in the gas duct;
- d. generating a subsequent multidimensional graphical depiction of the flue gas emissions by plotting sensor data captured subsequent to the boiler adjustment, and
- e. repeating steps (c) and (d) until the graphical depiction displays an acceptable plot of flue gas emissions.

22. (Withdrawn) A method as in claim 21 wherein the acceptable plot is a substantially smooth plot with minimized gradients in the flue gas emissions.

23. (Withdrawn) A method as in claim 21 wherein a mobile computer generates the multidimensional graphical depiction of the flue gas emissions by plotting the sensor data captured from the emission sensor.